

ABSTRACT

To exam mask defect impact during the transfer of a mask pattern to a wafer layer, tools can use mask images obtained during mask inspection. Specifically, these tools can also use optical models of such mask images to simulate wafer images. However, when feature sizes become very small, optical models may not provide sufficiently accurate simulation results. Using a photoresist model would yield significantly more accurate simulation results than using an optical model. Unfortunately, resist modeling is very slow, thereby making it commercially impractical. A simulation tool can generate a simulated wafer image having the accuracy of a photoresist model with the speed of an optical model by using a threshold look-up table. In one embodiment, the threshold look-up table could include variables such as feature size, pitch size, feature type, and defect type.